

# Project Progress Report (PPR)

Capacity to Customers (C<sub>2</sub>C) Project



This report was submitted to Ofgem in December 2012

Produced by: Craig McNicol Date: 13 December 2012

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## **VERSION HISTORY**

Version	Date	Author	Status (draft, etc)	Comments
d0.1	08 November 2012	C McNicol	First draft	Project team review
d0.2	15 November 2012	C McNicol	2 <sup>nd</sup> draft	Wider team review
d0.3	23 November 2012	C McNicol	3 <sup>rd</sup> draft	Sponsor review
d0.4	29 November 2012	C McNicol	4th draft	Outcome of sponsor review
d0.5	07 December 2012	C McNicol	5 <sup>th</sup> draft	Inclusion of financial data & narrative
1.0	13 December 2012	C McNicol	1 <sup>st</sup> issue	

## **APPROVAL**

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## **GLOSSARY OF TERMS**

Abbreviation	Term
CEP	Customer Engagement Plan
CRMS	Control Room Management System
C <sub>2</sub> C	Capacity to Customers
DPS	Data Protection Statement
I&C	Industrial & Commercial
MPAN	Meter Point Administration Number
SDRC	Successful Delivery Reward Criteria
SDRC output	Discrete evidence of attainment or part attainment of an SDRC as defined in the Project Direction
RTU	Remote Terminal Unit

All other definitions shown starting with a Capital letter are as per LCN Fund Governance Document v5.

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#### 1. EXECUTIVE SUMMARY

The Capacity to Customers ( $C_2C$ ) Project is funded via Ofgem's Low Carbon Networks Second Tier funding mechanism. The  $C_2C$  Project was authorised to commence in January 2012 and is due to complete in December 2014.

As the UK fulfils its decarbonisation obligations under the Climate Change Act 2008 to cut greenhouse gas emissions by 80% by 2050, the demand on electricity networks is forecast to dramatically increase. This increase in network demand will be driven primarily through the decarbonisation of heat, transportation and electricity production rather than by a growing population or growing energy usage. The likely consequences of this increase are increased electricity costs to customers and significant environmental and social impacts.

The aim of the  $C_2C$  Project is to test new technology, network operational practices (ie closed HV rings) and commercial demand response contracts that will allow Electricity North West to increase the loadings on a selection of trial circuits representing approximately 10% of our HV network without resorting to conventional network reinforcement. In other words to 'release' inherent spare capacity in the HV system in order to accommodate the future forecast increases in demand whilst avoiding (or deferring) the cost and environmental impacts that are associated with traditional network reinforcement. The  $C_2C$  Project consists of customer and commercial, technology and learning, and dissemination workstreams.

The C<sub>2</sub>C Project will develop and trial new demand response contracts that will allow Electricity North West to manage the import or export capacity of contracted customers, with their agreement, on the trial circuits under fault or abnormal system conditions. When a new customer connects to the network they will be offered the option to sign up to a connection contract with demand response obligations in exchange for a reduced connection charge.

In the event that a fault occurs on the HV network feeding such a customer, the contract will allow Electricity North West to manage all or part of their demand if required to enable Electricity North West to restore customers' supplies in as short a time as possible. It is envisaged that many future customers may opt for part of their demand to be managed in this manner in exchange for reduced connection charges.

Prior to commencing the live trial, it will be necessary for Ofgem to grant a derogation from Licence Condition 24 in relation to Engineering Recommendation P2/6 (ER P2/6) compliance. This is because ER P2/6 requires that in the event of a worst case fault, the network should be capable of restoring customers' unconstrained demand within a defined timescale. The  $C_2C$  Project will increase the demand on the selected HV circuits and Primary Substations and use demand response to manage this increase. The derogation application was made to Ofgem during June 2012 and we are expecting approval during December 2012. The application needs to be approved by March 2013 to avoid delaying the project deliverables.

ER P2/6 does not explicitly recognise this technique which enables the use of the HV circuits' latent capacity. This derogation application has been made and we await Ofgem's approval.

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In addition to new demand response contracts the  $C_2C$  Project will implement new technology in the form of an interface from our existing Network Management System to the GE PowerOn Fusion system to provide real time adaptive network management which, along with additional system automation fitted to our trial HV circuits, will allow faulted circuits to be restored to normal running conditions as quickly as possible. Other technology elements of the Project will be to monitor power quality on the trial HV circuits in order to prove what affect the changes in operational practice (ie running HV circuits closed) have on supply quality. Dissemination of learning is a key deliverable for the project and this will be achieved by sharing our findings via our  $C_2C$  website, industry conferences, consultations and publication of trade articles and white papers.

#### **Progress to date**

This report is the second C<sub>2</sub>C Project Progress Report and covers the period June 2012 to November 2012 inclusive.

The status of the Project at the beginning of the current reporting period was that the Project had successfully mobilised and delivered two Successful Delivery Reward Criteria (SDRC) outputs namely: enriched customer data and the software design for the interface to the GE PowerOn Fusion network management system. The Project expenditure was at that time behind the original baseline due to deferment of orders for high value plant and software. The expenditure was deferred in order to ensure each high cost project work package had received the maximum amount of due diligence during the design stage in order to minimise both cost and risk to customers. The gap between original budget and actual expenditure was forecast to close by the end of the financial year 2012 / 13.

The current period has been extremely productive; highlights include final identification of HV trial circuits, application for derogation from the distribution licence relating to ER P2/6 and the completion of a major a customer survey activity involving 200 I&C customers. This survey gauged the appetite of I&C customers to participate in the trial and also provided invaluable feedback regarding barriers and motivators. This is now being used to shape the development of our commercial templates for the post fault demand response services that we will seek to procure from trial participants.

During the reporting period the Project has delivered seventeen SDRC outputs, these are shown in table 1.1 below.

Table 1.1 Successful Delivery Reward Criteria delivered during the reporting period

Milestone	Workstream	Completion date
List of HV circuits, selection & variation methodology	Technical	Jun-12
Submit derogation application to Ofgem	Technical	Jun-12
Customer engagement plan accepted by Ofgem	Customer	Jun-12
C₂C website live	Customer	Jun-12
Trial HV circuits published	Customer	Jun-12
Various engagement programmes including emails June 12 to August 14	Customer	Jun-12
Submit project first progress report to Ofgem	Dissemination	Jun-12

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Milestone	Workstream	Completion date
First project pamphlet	Customer	Jul-12
Complete customer survey	Customer	Aug-12
Complete & publish customer segmentation model on website	Customer	Aug-12
C <sub>2</sub> C connection offer process published	Customer	Sep-12
Publication of first trade magazine article (C <sub>2</sub> C overview)	Customer	Sep-12
Present to first industry conference (Brunel University)	Dissemination	Sep-12
Publish information pamphlet for HV circuits	Technical	Oct-12
Present to LCN Fund Annual Conference by 2014	Dissemination	Oct-12
Publication of first white paper (Customer Survey)	Dissemination	Oct-12
Publication of 2 <sup>nd</sup> trade magazine article (Customer Survey)	Customer	Nov-12

Project expenditure as at the end of November 2012 was £3.4 million compared with a planned expenditure of £6.6 million, full details can be found in section 5.

The expenditure is still behind the original cost baseline. The deferment of the procurement of the IT system and remote control equipment has resulted in the installation and commissioning of the equipment being later than forecast in the original baseline. Despite the current variance to original cost baseline, the  $C_2C$  Project is on track and we are optimistic that future SDRC outputs will be achieved in order to meet the 'go live' date of April 2013.

During the reporting period Electricity North West has participated in knowledge dissemination events as shown in table 1.2 below:

Table 1.2 Knowledge sharing events participated in during the reporting period

Event	Contribution	Date
WPD LCNF Knowledge Sharing Event	Attended	July 2012
IET Smart Grid 2012 event	Chaired	September 2012
Smart Grid Demonstrator Forum (Brunel University)	Presented	September 2012
Low Carbon London Knowledge Sharing Event	Attended	October 2012
Distribution Automation Europe conference	Attended	October 2012
2012 LCN Fund Annual Conference (Cardiff)	Presented	October 2012
DG Forum	Presented	November 2012

During the next reporting period the  $C_2C$  Project will focus on preparations for trial 'go live'. Whilst we are optimistic about achieving the agreed milestones there is a substantial amount of work to complete and the next period is one of the most critical for overall delivery. Key activities looking forward will include commissioning and acceptance of enhanced network management software, commissioning of remote control and power quality monitoring equipment. Our Customer and Commercial work-streams will focus on customer briefings, seminars and completion of the development of our  $C_2C$  commercial templates. This will be followed by starting negotiations with prospective aggregators and trial participants who will be incentivised to sign up to post-fault demand response contracts for the duration of the trial.

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Looking further ahead, the live trial period is scheduled to occur from April 2013 until September 2014, during which time the  $C_2C$  Project will seek to complete negotiations on twenty post-fault demand response contracts across existing and new customers, continuously monitor the effect of changes to the network running configuration, monitor any subsequent impact on trial participants and disseminate learning on an ongoing basis.

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#### 2. PROJECT MANAGER'S REPORT

#### 2.1 General Programme Management

The most significant general programme management activities undertaken during the reporting period are listed below:

- Recruitment of project resources
- Project monitoring and control
- Internal and external stakeholder awareness.

During this reporting period the Project has continued to recruit resources in preparation for project activities reaching a peak from December 2012. Internal stakeholder engagement has continued with the emphasis moving away from initial project awareness to describing the specific impacts of the project on each group of stakeholders, this process will continue as the project moves towards the trial 'go live' in April 2013.

#### 2.2 Technology Workstream

The most significant Technology Workstream activities during the reporting period are listed below:

- Development of network management system software
- Installation of 130 out of 486 remote control devices on the HV network
- Commencement of ER P2/6 consultation process
- Specification and procurement of power quality monitoring equipment
- Formation of Engaged Customer Panel.

All SDRC that are associated with the above activities are completed or on track.

Whilst we are optimistic about the next six months there is a substantial amount of work to complete within the Technical Workstream. This work is required to be completed prior to trial 'go live' in April 2013.

#### 2.3 Customer and Commercial Workstream

The most significant Customer and Commercial Workstream activities during the reporting period are listed below:

- C<sub>2</sub>C website go live
- Customer engagement and market segmentation model
- Publication of connections offer process review
- Development of new commercial templates for C<sub>2</sub>C contracts.

All SDRC that are associated with the above activities are complete or on track.

#### 2.4 Learning and Dissemination Workstream

The most significant Learning and Dissemination Workstream activities during the period have been listed in table 1.2 of the Executive Summary. In addition we have established a  $C_2C$  Project website which is being used as a repository for sharing project learning to interested stakeholders.

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A general list of lessons learned during the period can be found in table 2.1 below:

Table 2.1 Lessons learned

Activity	What could have gone better / Lesson learned
Sign off of 6 monthly PPR	Due to Ofgem's requirement for a mid month submission (7 working days after financial month end) and the fact that the last report was the first we had prepared, the timescales for review & sign off were challenging particularly as sign off requires the briefing and quality assessment by board members.  Lessons learned  1. Report narrative to commence 6 weeks prior to
Customer Survey – Pricing Model	submission and conclude 2 weeks prior to submission.  Due to the ambitious timescales within the project to design and carry out the survey and produce a robust pricing model for respondents to consider, examples of proposed rewards were based on IIS values as a test value.  Lessons learned  1. This observation is being factored into the development of our pricing model which is likely to use a variety of different methods of evaluating an 'acceptable range' of contract prices for any given customer. These will be used as a start point for negotiations with customers and to determine whether the actual sale prices are economically viable.
Customer Survey Design	The Customer Survey indicated very clearly that it is essential to generate sufficient customer confidence in relation to maintaining their security of supply and to avoid a barrier to engagement.  Lessons learned  1. In order for us to be successful when it comes to securing trial participants, we must ensure we are able to present the customer with a robust impact assessment.  This is likely to require the use of fault rate history and fault restoration performance for each particular customer.
Engaged Customer Panel	To embed ongoing stakeholder engagement we formed an Engaged Customer Panel to help formulate effective communication plans. The research was designed to identify the best method of communication to publish a simple explanation of the C <sub>2</sub> C project to domestic customers on these circuits. The panel was made up of an appropriate cross section of customers to provide qualitative research. The research comprised a staged approach with two phases of research. This was a deliberate strategy to gradually educate and test the respondents and evaluate the communications materials and customer feedback.  Lessons learned  1. The C <sub>2</sub> C concept is too complex for customers to understand after one session and even after a second session, some respondents still lacked clarity as to the specifics of both the problem and the solution. Without fully understanding the concept, it created a number of immediate misconceptions causing both confusion and unnecessary concerns amongst the respondents. Those panel members who understood the concept did not have such concerns.  2. Given the complexity of the C <sub>2</sub> C concept and the myriad

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Activity	What could have gone better / Lesson learned		
	of questions and concerns it raises, the Engaged Customer Panel research recommended that Electricity North West avoid direct communications with customers other than those I&C customers directly participating. This was based on their assessment that the frequency of power cuts will not be discernibly different and the power cut duration will mostly improve in the unlikely event of a fault during the trial.		

#### 3. BUSINESS CASE UPDATE

We are not aware of any developments that have taken place since the issue of the C<sub>2</sub>C Project Direction that affect the business case for the project.

#### 4. PROGRESS AGAINST PLAN

#### 4.1 Current reporting period

The  $C_2C$  Project has successfully delivered seventeen SDRC during the reporting period. These are detailed in section 7, table 7.1. The Project has encountered a number of risks during the reporting period. These are described below.

#### Risks and issues experienced during reporting period

#### Procurement of monitoring equipment (R022) - Status: Controlled

**Risk:** There was a risk that we have yet to finalise the power quality monitoring installation resource, leading to delays to power quality monitoring activities, because of insufficient time to install the equipment.

**Action plan**: Power quality monitoring devices have been identified and ordered. The equipment suppliers have informed us of an 8 week lead time for delivery of the equipment. The first batch of devices is expected to be delivered in January 2013. Two options exist regarding installation resource involving internal and external resources. It is planned to finalise installation resource during December in time to commence installation in January 2013.

#### May not secure 10 new connections contracts - low volumes (R023) - Status: Open

**Risk:** There is a risk that we may not secure 10 demand response contracts with new customers, leading to failure to achieve a project SDRC output, because of lower than anticipated connections market activity.

**Action plan**: We will closely monitor the volumes of new connections applications on the  $C_2C$  circuits from January 2013 onwards. Whilst the economic downturn has adversely affected the volume of demand connections applications, we expect the volume of generator connections to be affected to a lesser degree. This risk may therefore alter the 'mix' of new  $C_2C$  connections agreements but not the volume.

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#### High cost of power quality monitoring equipment (R025) - Status: Controlled

**Issue:** There was an issue that despite selecting the lowest cost device the unit costs for power quality monitoring equipment was greater than budgeted for, leading to overspending the project budget for power quality monitoring.

**Action plan**: A decision was taken to adopt a manual data collection process as opposed to remote streaming of data as this significantly reduced the cost of the overall solution. A review of the required quantities with University of Strathclyde has been conducted. Despite reducing the scope of the solution the cost of the equipment will exceed original budget and full utilisation of contingency on this item will be required.

#### Failure of aggregators to engage (R026) - Status: Open

**Risk:** There is a risk that our aggregators may be unwilling to engage, leading to difficulties in securing existing trial participants because there may be little overlap between trial customers and their customer base.

**Action plan:** We have commenced engagement with the aggregators early and provided them with trial circuit MPANs in order for them to assess the potential trial participants. However until commercial terms have been developed we do not have a detailed expenditure forecast for this element of the project. We are working closely with our named aggregator partners to achieve this and have in addition identified a number of alternate aggregators.

#### Remsdag NX units (1008) - Status: Controlled

**Issue:** There was an issue that the installation of remote control devices was halted, leading to the potential failure to install all RC devices by trial go live and failure to meet an SDRC, because of a software problem that came to light with the Remsdag RTU.

**Action plan:** Meetings were arranged to identify and resolve the issue. A software upgrade has been issued and this is being applied to all units that have already been installed. The installation programme has been re-started with approximately 3 weeks lost production. It is expected that this can be accommodated within the plans and that the programme will be completed on time in March 2013 however there is little or no 'float' remaining with this project activity.

#### 4.2 Next reporting period

During the next reporting period significant programme management activities will be:

- · Continued stakeholder engagement and management
- Continued project monitoring and control.

During the next reporting period the Technology Workstream's significant activities will be:

- Testing and commissioning of the enhanced the network management system
- Testing and commissioning of 486 remote control actuators and RTU equipment
- Testing and commissioning of 80 power quality monitors

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- Completion of the ER P2/6 industry engagement process and drafting of the recommendations report for amending ER P2/6
- Commencement of losses, power quality, carbon and economic benefit analysis work with the Universities of Manchester & Strathclyde.

During the next reporting period the Customer and Commercial Workstream's significant activities will be:

- Customer seminars and briefings
- Completion of commercial templates
- Commencement of negotiations with potential aggregators and trial participants.

During the next reporting period the Learning and Dissemination Workstream most significant activities will be:

 Preparation and hosting for Electricity North West's first learning and dissemination event that is due to take place during March/ April 2013.

The SDRC planned for the next reporting period can be seen in table 7.2 in Section 7.

#### 5. PROGRESS AGAINST BUDGET

The Project Budget as defined in the Project Direction is shown in Appendix A.

Prior to the acceptance of the Project Direction we discussed with Ofgem the recategorisation of expenditure as our understanding of delivery methods had changed during the development of the project initiation documentation; for example, we proposed to change our delivery approach by using contractors for some activities rather than our own personnel. We accepted the Project Direction and agreed to inform Ofgem of the proposed changes within the Project progress report process. Appendix B details the proposed recategorisation.

We are aware that Electricity North West is required to formally request approval of changes to expenditure if our forecast expenditure at cost category level exceeds the originally agreed values that are included in Annex 1 of the Project Direction by 10%. We plan to submit this request in the early part of 2013. As stated above, this will be as a result of re-categorisation of expenditure with no net increase being requested.

Actual spend to date compared to Project Budget is summarised in table 5.1 below. The report includes expenditure up to and including 30 November 2012. Detailed expenditure can be found in Appendix C at project activity level.

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Table 5.1

£'000s	Spend to date			Total Project		
Excluding Partner Funding Ofgem Cost Category	Actual	Plan	Variance	Forecast	Plan	Variance
Labour	333	1,331	998	1,755	2,512	758
Equipment	1,671	3,065	1,395	3,078	3,078	0
Contractors	1,101	1,480	379	3,012	2,254	(758)
IT	238	594	356	740	740	0
IPR Costs	0	0	0	0	0	0
Travel & Expenses	0	0	0	0	0	0
Payments to users	0	0	0	300	300	0
Contingency	0	0	0	947	947	0
Other	96	124	29	445	445	0
Total Costs	3,438	6,596	3,158	10,275	10,275	0

Source: Ofgem Schedule to Project Direct 19-12-11

The deferment of orders and subsequent implementation of high value plant and software has caused a deferment of expenditure to latter parts of the year. This has resulted in a £3.2 million variance to the original project budget as at 30 November 2012. This is not expected to jeopardise the delivery of the SDRC as this expenditure is associated with relatively long duration activities whose SDRC are not due until March 2013. The Estimated At Completion cost for the project is forecast to remain in line with the original budget of £10.3m (subject to utilisation of contingency).

#### 6. BANK ACCOUNT

The  $C_2C$  Project bank statement is shown in Appendix D. The statement contains all receipts and payments associated with the project up to the end of November 2012.

#### 7. SUCCESSFUL DELIVERY REWARD CRITERIA

During the reporting period, May 2012 to November 2012, seventeen planned SDRC were delivered.

Table 7.1 SDRC delivered in reporting period

Milestone	Planned date	Completion date	Comments
List of HV circuits, selection & variation methodology	Jun-12	Jun-12	Completed as per Project Direction
Submit derogation application to Ofgem	Jun-12	Jun-12	Completed as per Project Direction
Customer engagement plan accepted by Ofgem	Jun-12	Jun-12	Completed as per Project Direction
C <sub>2</sub> C website live	Jun-12	Jun-12	Completed as per Project Direction
Trial HV circuits published	Jun-12	Jun-12	Completed as per Project Direction
Various engagement programmes inc emails June 12 to August 14	Jun-12	Jun-12	Completed as per Project Direction
Submit project progress report #1 to	Jun-12	Jun-12	Completed as per Project

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Milestone	Planned date	Completion date	Comments
Ofgem			Direction
First project pamphlet	Jul-12	Jul-12	Completed as per Project Direction
Complete customer survey	Jun-12	Aug-12	Change request agreed due to events outside ENWL control. Refer to section 10, 'Approval of Customer Engagement Plan' for details.
Complete & publish customer segmentation model on website	Jul-12	Aug-12	Change request agreed due to events outside ENWL control. Refer to section 10, 'Approval of Customer Engagement Plan' for details.
C₂C connection offer process published	Sep-12	Sep-12	Completed as per Project Direction
Publication of 1st trade magazine article (C <sub>2</sub> C overview)	Sep-12	Sep-12	Completed as per Project Direction
Present to 1 <sup>st</sup> industry conference (Brunel University)	Sep-12	Sep-12	Completed as per Project Direction
Publish information pamphlet for HV circuits	Oct-12	Oct-12	Completed as per Project Direction
Present to LCN Fund Annual Conference by 2014	Dec-14	Oct-12	Completed as per Project Direction
Publication of first white paper (Customer Survey)	Jun-12	Oct-12	Affected by delay to customer survey
Publication of 2 <sup>nd</sup> trade magazine article (Customer Survey)	Nov-12	Nov-12	Completed as per Project Direction

Details of the SDRC that were delivered at variance to the planned dates agreed in the Project Direction are highlighted below:

#### Customer Survey – Planned June 2012, Delivered September 2012

There was an issue with delivering the Customer Survey in June 2012 as per the plan. This issue related to the approval of our Customer Engagement Plan that was required prior to the Customer Survey commencing. This approval did not occur during the assumed timescale.

#### Customer Segmentation Model – Planned July 2012, Delivered September 2012

This SDRC output was also affected by the delay to the approval of the Customer Engagement Plan.

#### White Paper #1 - Planned June 2012, Delivered December 2012

This SDRC output was also affected by the delay to the approval of the Customer Engagement Plan.

The SDRC planned for the next reporting period can be seen in table 7.2 below.

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Table 7.2 SDRC look ahead

Milestone	Planned date	Forecast Completion date	Comments
C <sub>2</sub> C commercial templates available to customers	Dec-12	Dec-12	On track
First customer seminar (New connections customers)	Dec-12	Dec-12	On track
Submit 2 <sup>nd</sup> project progress report to Ofgem	Dec-12	Dec-12	On track
Publication of 2 <sup>nd</sup> white paper (ER P2/6 derogation)	Dec-12	Dec-12	On track
Publication of 3rd trade magazine article	Jan-13	Jan-13	On track
2 <sup>nd</sup> customer seminar	Apr-13	Dec 12/ Jan-13	Brought forward
P2/6 workshops completed	Jul-13	Jan-13	Brought forward
Publication of 4 <sup>th</sup> trade magazine article	Mar-13	Mar-13	On track
Software & IT hardware I&C complete	Mar-13	Mar-13	On track
Actuators, comms & ME I&C complete	Mar-13	Mar-13	On track
P2/6 industry consultation completed	Dec-13	Mar-13	Brought forward
Live trials commence	Apr-13	Apr-13	On track
Complete P2/6 simulation exercise	Apr-13	Apr-13	On track
P2/6 recommendation report issued	Sep-14	Apr-13	On track
Publication of 5 <sup>th</sup> trade magazine article	May-13	May-13	On track

Details of the SDRC that are forecast to be delivered at variance to the planned dates agreed in the project direction are highlighted below:

#### Customer seminar #2 - Planned April 2013, Forecast December 2012 - March 2013

Our second customer seminar was originally planned to take place in April 2013. We have now commenced seminars aimed at existing I&C customers who may be interested in participating in the trial. The first of these has already been conducted and will be written up during December. The purpose of this seminar was to follow up the Customer Survey and inform the development of our commercial templates. We will complete the development of our commercial templates during December and we feel that it was of benefit to obtain face to face feedback prior to finalising the commercial templates. It is likely that we will hold a further customer seminar with existing customers prior to go live in order to start the process of securing trial participants.

#### P2/6 workshops complete – Planned July 2013, Forecast January 2013

If the Capacity to Customers concept were to be rolled out post trial, changes may need to be made to ER P2/6. An industry consultation has always been in scope of the project and

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we are planning to accelerate this consultation in order to avoid an overlap between it and an industry debate regarding its replacement ie the development of ER P2/7 and also to fit in with Ofgem's timetables for ED1 and WS6 (Smart Grids Forum). We believe it will be beneficial to the project and the industry as a whole to conclude this debate as soon as practicable and our plan involves engaging with all the DNOs and various stakeholders.

#### P2/6 industry consultation complete – Planned December 2013, Forecast March 2013

Please refer to narrative above.

#### 8. LEARNING OUTCOMES

The C<sub>2</sub>C Project is still at an early stage in its life cycle and has not yet delivered large volumes of products that warrant specific dissemination to industry stakeholders. Our most significant deliverable to date has been our Customer Survey and we have published our survey findings on our website at <a href="http://www.enwl.co.uk/c2c/about-c2c/key-documents">http://www.enwl.co.uk/c2c/about-c2c/key-documents</a>

We have also presented our high level Customer Survey findings to the 2012 LCN Fund Annual Conference, held in Cardiff between 24 to 26 October 2012.

During the next reporting period the project will have completed all preparations for project 'go live' and will be in a position to disseminate knowledge and learning covering all workstreams. It is therefore planned to hold our first learning event during April 2013.

#### 9. INTELLECTUAL PROPERTY RIGHTS (IPR)

Electricity North West is following the default IPR arrangements and during the current period we have undertaken a Customer Survey and developed a Customer Segmentation Report. These results have been fully published on our C<sub>2</sub>C website in line with the default IPR arrangements. There has been significant interest in the results of the Customer Survey which has shown that the C<sub>2</sub>C concept is appealing to I&C customers.

Looking ahead to the next period we will complete work on the following activities that may have IPR implications:

- 1. Interface to the GE PowerOn Fusion network management system
- 2. Commercial templates
- 3. Installation of network monitoring
- 4. Customer engagement learning.

We are currently considering our IPR approach to the above project deliverables and will report on them in the next project progress report.

#### **10. RISK MANAGEMENT**

Major risks that have arisen during the reporting period have already been described in section 4. The narrative below refers to risks that arose during previous reporting period(s).

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#### 10.1 Risks encountered during previous reporting period (January - May 2012)

#### Internal stakeholder awareness of C2C Project (R014) - Status: Controlled

**Risk:** At the beginning of May a risk was identified that some internal stakeholders may not be fully aware of the detailed scope of their involvement in the project.

**Action plan:** To resolve this issue an internal stakeholder analysis was performed which identified key individuals or groups that needed to be more fully engaged in the project detailed plan. A process of increasing stakeholder awareness and formalising resource commitments was undertaken, involving one-to-one briefing sessions for directors, management teams and resource schedule controllers. Having completed this exercise during May the need to develop a wide scale 'internal launch' of the project was identified. This activity has been carried out during the current reporting period of project and details have been added to the key documents area of the project website.

#### Insufficient number of suitable closed rings on HV circuits (1002) - Status: Controlled

**Issue:** During the circuit selection process it became apparent that a number of circuits that satisfied initial selection criteria would not actually be suitable for inclusion in the trial, either because they had a spring closing mechanism circuit breaker at the feeding end (ie limited auto-reclose capability) or because the circuits did not actually form a closed ring on the same primary substation. This led to the need to widen the selection criteria to include circuits with expected lower connections application market activity or the need to install Retvac<sup>1</sup> circuit breakers.

**Action plan:** It was decided to lower the criteria for the volume of I&C connections applications and introduce a new category of circuit called 'low fault rate open rings'. The introduction of this third category of trial circuits will be used to establish whether the  $C_2C$  concept will require multi shot circuit breakers at feeding primary substations. The learning from this issue has been included in the circuit selection report and will provide valuable additional learning for application to networks with older configurations of switchgear.

#### Approval of Customer Engagement Plan (1005) - Status: Controlled

**Issue:** An issue emerged regarding the approval of the C<sub>2</sub>C Customer Engagement Plan (CEP), this was submitted at the end of March 2012 and it was understood that Ofgem required two months to review the plan as outline in the LNCF Governance Fund Document v5. During the initial project planning it was assumed that entire approval process would last two months and our customer engagement exercise was scheduled to commence immediately after the two month review period. In reality Ofgem provided their comments two months after submission of the document and these required material changes to be made to the CEP. This has delayed the start of the Customer Engagement.

**Action plan:** Electricity North West and Ofgem discussed the issue and agreed a 'no fault' delay to the Customer Engagement and Customer Segmentation Model SDRC. It was agreed to amend and approve the CEP within one month and for Electricity North West to formally request a delay to two SDRC that were dependent on the approval of the plan.

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<sup>&</sup>lt;sup>1</sup> A replacement circuit breaker with a suitable mechanism for the automation required by C<sub>2</sub>C.

A key lesson from this is to allow one month between any Ofgem review period and the commencement of an activity that is dependent on positive outcome of that review. This principal will be reflected in the project plan.

#### 10.2 Risks that existed at time of Project submission

The narrative below refers to risks that existed at time of submission and were detailed in Appendix 2 of the submission.

# Risk 1: Risk that internal Operations team will not be able to support installation of automated devices - Status: Controlled

The work requirements have been defined and communicated to the relevant delivery manager and will be tracked via our Network Investment Group governing body.

## Risk 2: Risk that key personnel will not be available to deliver the project - Status: Controlled

The project delivery team has been recruited and is part of the same department as the bid development team, which has supported the delivery team during the mobilisation stage of the project.

# Risk 3: Risk of problems with the financial control of the project because of the new requirement for a separate bank account - Status: Controlled

The project bank account has been set up and monthly processes have been put in place to review receipt and payments on a monthly basis.

#### Risk 4: Failure to achieve low carbon saving - Status: Open

The carbon impact of the project will be better understood once we begin to negotiate C<sub>2</sub>C contracts and gain an understanding of customer willingness to engage.

**Action plan:** Continuously review from commencement of live trials. This is also a key activity that is being modelled by our partner University of Manchester.

#### Risk 5: Poor project management - Status: Controlled

The project team has been recruited. The programme manager is a member of the Project Management Institute and holds their Professional Project Manager credentials (PMP). Weekly and monthly project governance meeting have been established and implemented. These include monthly updates to the sponsoring director.

#### Risk 6 - Network equipment cost overruns - Status: Controlled

The project requires 486 remote control sites to be established at an estimated average cost of £6k per site. The estimate at completion cost for this task is £3.1m. This is within budget for this activity. However some additional costs are expected associated with primary substation alarm issues (eg one primary substation currently does not have the capability to activate automated restoration sequence (ARS) and therefore the ARS capability will need to be established by the C<sub>2</sub>C Project). At the time of writing this report project expenditure was within budget.

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#### Risk 7 – Payment to customer cost overruns - Status: Open

The costs associated with the payments to customers will be better understood once we begin to negotiate  $C_2C$  contracts and gain an understanding of customer willingness to engage.

#### Risk 8 – Project partners walk away once project is won - Status: Open

We have signed contracts with GE Energy, PB Power and our University partners. We have yet to sign contracts with the aggregators Enernoc or Flexitricity and there is a risk that they may decline to take part in the Project. This will be a key area of focus during the next reporting period.

#### **11. OTHER**

There is no other information at this time that would be of use to Ofgem in understanding the progress of the project and performance against SDRC.

#### 12. ACCURACY ASSURANCE STATEMENT

This document has been reviewed by a number of key business stakeholders in order to ensure its accuracy. The general narrative has been reviewed by members of the project team and select members of the  $C_2C$  Programme Steering Group, including the lead member of the bid development team to ensure accuracy of statements associated with events prior to project mobilisation. The narrative has also been peer reviewed by the Electricity North West Future Networks Manager and the Electricity North West Networks Strategy and Technical Support Director.

The financial information has been produced by the  $C_2C$  Programme Manager and the Project's finance business partner who review all financial postings to the project each month in order to ensure postings have been correctly allocated to the appropriate project activity. The financial information has been reviewed by the Electricity North West Distribution Finance Business Partner and the Electricity North West Chief Financial Officer.

Issue of the document has been approved by the Networks Strategy & Technical Support Director and the Chief Financial Officer (a Board Director).

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#### APPENDIX A - PROJECT DIRECTION PROJECT BUDGET

£000's	
ExcludingPartnerFunding OfgemCostCategory	
Labour	2,512
Monitorin <b>g</b> quipmentnstallationLabour	22
Busines in put into specs and testing CIOS ystem Design Approval Connections Clerical	20 65
ConnectionsCustomeRelationshiplanagement	241
DisseminatiorENWL& Customeengagemen/aemail& training	28
ImplementationfPowerOffusion  Maintenanc SupportorPowerOffusion	709 187
ProjectManagementGE	351
ProjectManagementENWL	790
Involvement developin guture Networl Planning/Operatio 6 da andard	15 32
CircuiSelection DevelopinfutureNetworPlanning/OperatioSalandard	53
Equipment	3,078
PublicitMaterialsInformationalamphlet& postag& packaging	18
RemoteControlnstallationPlant  Monitorin∉quipmerthstallationPlant	1,954 112
Remot@ontrolnstallationMaterials	563
Commissionin%CADAinktoRemoteControDevices	31
Deliveryandconfiguration of GEIT hardware and software	399
Contractors	2,254
Deman&ideRespons€ustome&urvey ProjecManagemenENWL	391 115
RemoteControlnstallationLabour	844
RemoteControlnstallatioat Customer Premises	159
Contractors rave & Publicity Informing Affecte Customers	42
ConnectionsConnectionSesign CarbonAnalysis	303 40
DataAnalysisandEconomitModelling	185
PowerSystemandTechnicaModelling	175
ІТ	740
DataCaptureandCleanse	55
Databaseicenses DevelopCRMSReportin@apability	100 11
DevelopCRMS/PowerQ8OAP)nterface	87
DevelopNewInterfaceo PowerOn Fusion	87
DevelopReal-timeDataUpdateFunctionality	55
Develop/isuaDisplayFunctionaliforCRMS InitiaDataLoadFunctionality	73 55
Systemntegration Testing	66
TestingandDevelopmenWorkstation	10
UploachdStoreEstimate(intohistorian) UploacCRMSDiagramandManage(Loads	85 55
IPR Costs	0
Travel& Expenses	0
Paymentsto users	300
Deman&ideResponse	300
Contingency	947
DevelopmentedPreparation	44
Remot@ontrolnstallation	284
PublicityTrainingandDissemination DSRandInterruptions	125 100
ProjecManagement	28
Connections	102
Monitoring quipment	77 109
Installation and configuration of IT and Implementation Power On Fusion Circuits election and dataupload	24
Analysis Modelling and Developme roof Standards	41
SystemIntegration Testing Decommissioning	13
Other	445
PublicityandDissemination	<b>445</b> 257
Accommodation	160
Unplannethterruptionsturingtrial	27
	10,275
Source: Ofgem Schedule to Project Direct 19-12-11	_

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# APPENDIX B - RE-BASED PROJECT BUDGET (BASED ON ENHANCED KNOWLEDGE OF DELVIERY ROUTE)

£'000s Excluding Partner Funding		al Project		Com ments
Ofgem Cost Category	Forecast	Plan	Variance	John Melits
Labour	1,755	2,512	758	
Monitoring Equipment Installation - Labour	22	2,512	0	
Business input into specs and testing & CIO System Design Approval	20	20	0	
Connections - Clerical  Connections - Customer Relationship Management	65 241	65 241	0	
Connections - Customer Relationship Management  Dissemination - ENW L & Customer engagement via email & training	241 28	241	0	
Implementation of PowerOn Fusion	0	709	709	Moved to Contractor from Labour
Maintenance & Support for PowerOn Fusion	187	187	0	Mond to Outside Co. 1.1
Project Management - GE Project Management - ENW L	0 790	351 790	351 0	Moved to Contractor from Labour
Involvement in developing Future Network Planning/Operational Standard	790 15	790 15	0	
Circuit Selection	0	32	32	Contractors used instead of internal labour
Developing Future Network Planning/Operational Standard	0	53	53	Contractors used instead of internal labour
Connections - Connections Design Remote Control Installation	303 84	0	(303) (84)	Internal labour to be used instead of contractors  10% of Remote Control Installation by internal labour
	04	U	(04)	3. No. 35 No. 100 Installation by Internal Iduoui
Equipment	3,078	3,078	0	
Publicity Materials - Informational Pamphlets & postage & packaging	18	18	0	
Remote Control Installation - Plant Monitoring Equipment Installation - Plant	1,954 112	1,954 112	0	
Remote Control Installation - Materials	563	563	0	
Commissioning SCADA link to Remote Control Devices	31	31	0	
Delivery and configuration of GE IT hardware and software	399	399	0	
Contractors	3,012	2,254	(758)	
Demand Side Response Customer Survey	391	391	0	
Project Management - ENW L	115	115	0	
Remote Control Installation - Labour	760	844	84	10% of original budget moved to Labour
Remote Control Installation at Customers' Premises	159	159	0	
Contractors Travel & Publicity - Informing Affected Customers  Connections - Connections Design	42 0	42 303	0 303	
Connections - Connections Design Carbon Analysis	40	303 40	303	
Data Analysis and Economic Modelling	185	185	0	
Power System and Technical Modelling	175	175	0	
Project Management - GE	351	0	(351)	Moved to Contractor from Labour
Circuit Selection	32	0	(32)	Contractors used instead of internal labour
Developing Future Network Planning/Operational Standard	53	0	(53)	Contractors used instead of internal labour
Implementation of PowerOn Fusion	709	0	(709)	Moved to Contractor from Labour
ІТ	740	740	0	
Data Capture and Cleanse	55	55	0	
Database Licenses	100	100	0	
Develop CRMS Reporting Capability  Develop CRMS/PowerOn (SOAP) Interface	11 87	11	0	
Develop CRMS/PowerOn (SOAP) Interface Develop New Interface to PowerOn Fusion	87 87	87 87	0	
Develop Real-time Data Update Functionality	55	55	0	
Develop Visual Display Functionality for CRMS	73	73	0	
Initial Data Load Functionality	55	55	0	
System Integration & Testing Testing and Development W orkstation	66 10	66 10	0	
Upload and Store Estimates (into historian)	85	85	0	
Upload CRMS Diagram and Managed Loads	55	55	0	
IPR Costs	0	0	0	
Travel & Expenses	0	0	0	
			_	
Payments to users Demand Side Response	<b>300</b> 300	<b>300</b> 300	<b>0</b> 0	
Demand Side Response	300	300	U	
Contingency	947	947	0	
Development and Preparation	44	44	0	
Remote Control Installation	284	284	0	
Publicity, Training and Dissemination DSR and Interruptions	125 100	125 100	0	
Project Management	28	28	0	
Connections	102	102	0	
Monitoring Equipment	77	77	0	
Installation and configuration of IT and Implementation of PowerOn Fusion	109 24	109 24	0	
Circuit selection and data upload  Analysis, Modelling and Development of Standards	24 41	24 41	0	
System Integration & Testing	13	13	0	
Decommissioning	0	0	0	
Other	445	445	•	
Other Publicity and Dissemination	<b>445</b> 257	<b>445</b> 257	<b>0</b> 0	
Accommodation	160	160	0	
Unplanned interruptions during trial	27	27	0	
	40.000	40.077		
Course Office On the dull to Decise Discount 0 40 44	10,275	10,275	0	

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SourceOfgemScheduldoProjectDirect19-12-11

#### APPENDIX C - DETAILED PROJECT EXPENDITURE

£'000s	Sn	end to date	,	
Excluding Partner Funding Ofgem Cost Category	Actual		ariance	Comments
Labour	333	1,331	998	
Monitoring Equipment Installation - Labour	0	22	21	Profile variance to plan, estimated at completion in line with plan
Business input into specs and testing & CIO System Design Approval	21	20	(1)	
Connections – Clerical	0	0	0	Deafile various to plan activated at association in line with plan
Connections - Customer Relationship Management Dissemination - ENWL & Customer engagement via email & training	33 0	50 5	17 5	Profile variance to plan, estimated at completion in line with plan Profile variance to plan, estimated at completion in line with plan
Implementation of PowerOn Fusion	Ö	709	709	Moved to Contractor from Labour
Maintenance & Support for PowerOn Fusion	0	52	52	Support cannot start until Go live, estimated at completion in line with plan
Project Management - GE	0	194	194	Moved to Contractor from Labour
Project Management - ENWL	222	234	13	Draffic various to play activated at association in line with play
Involvement in developing Future Network Planning/Operational Standard Circuit Selection	1 0	3 32	32	
Developing Future Network Planning/Operational Standard	0	11	11	
Connections - Connections Design	19	0	(19)	Moved to Labour from Contractor. Accelarated to develop design processes
Remote Control Installation	38	0	(38)	10% of Remote Control Installation moved to Labour from Contractor
Equipment Publicity Materials - Informational Pamphlets & postage & packaging	1,671	3,065	1,395	Autility has relationship and autimated at appropriate in line with plan
Remote Control Installation - Plant	10 1,048	6 1,954	906	Activity brought forward, estimated at completion in line with plan  Activity deferred compared to plan, estimated at completion in line with plan
Monitoring Equipment Installation - Plant	72	112	40	
Remote Control Installation - Materials	160	563	402	Activity deferred compared to plan, estimated at completion in line with plan
Commissioning SCADA link to Remote Control Devices	0	31	31	Activity deferred compared to plan, estimated at completion in line with plan
Delivery and configuration of GE IT hardware and software	381	399	19	
Contractors Demand Side Response Customer Survey	<b>1,101</b> 162	<b>1,480</b> 391	<b>379</b> 229	Profiling difference, estimated at completion in line with plan
Project Management - ENWL	76	62	(14)	Actual costs of PM higher than original budget
Remote Control Installation - Labour	255	844	589	Activity deferred compared to plan, estimated at completion in line with plan
Remote Control Installation at Customers' Premises	0	0	0	
Contractors Travel & Publicity - Informing Affected Customers	0	11	11	Profiling difference, estimated at completion in line with plan
Connections - Connections Design	0	35	35	
Carbon Analysis	0	13	13	Profiling difference, estimated at completion in line with plan
Data Analysis and Economic Modelling Power System and Technical Modelling	0	63 59	63	Profiling difference, estimated at completion in line with plan  Profiling difference, estimated at completion in line with plan
Project Management - GE	245	0	(245)	
Circuit Selection	38	0		Moved to Contractor from Labour. Actual spend £6k higher than plan.
Developing Future Network Planning/Operational Standard	1	0	(1)	
Implementation of PowerOn Fusion	323	0	(323)	Moved to Contractor from Labour & activity accelerated
ІТ	238	594	356	
Data Capture and Cleanse	19	55		Activity deferred compared to plan, estimated at completion in line with plan
Database Licenses	10	100	91	
Develop CRMS Reporting Capability Develop CRMS/PowerOn (SOAP) Interface	0 43	0 87		Activity deferred compared to plan, estimated at completion in line with plan Activity deferred compared to plan, estimated at completion in line with plan
Develop New Interface to PowerOn Fusion	71	87	17	
Develop Real-time Data Update Functionality	23	42	20	Activity deferred compared to plan, estimated at completion in line with plan
Develop Visual Display Functionality for CRMS	14	36	23	Activity deferred compared to plan, estimated at completion in line with plan
Initial Data Load Functionality	45 0	55	10 0	Activity deferred compared to plan, estimated at completion in line with plan
System Integration & Testing Testing and Development Workstation	0	0 10	10	Activity deferred compared to plan, estimated at completion in line with plan
Upload and Store Estimates (into historian)	2	85	83	Activity deferred compared to plan, estimated at completion in line with plan
Upload CRMS Diagram and Managed Loads	13	36	24	Activity deferred compared to plan, estimated at completion in line with plan
IPR Costs	0	0	0	
Travel & Expenses	0	0	0	
Payments to users	0	0	0	
Demand Side Response	0	0	0	
Contingency	0	0	0	
Development and Preparation	0	0	0	
Remote Control Installation	0	0	0	
Publicity, Training and Dissemination DSR and Interruptions	0	0	0	
Project Management	0	0	0	
Connections	0	0	0	
Monitoring Equipment	0	0	0	
Installation and configuration of IT and Implementation of PowerOn Fusion	0	0	0	
Circuit selection and data upload	0	0	0	
Analysis, Modelling and Development of Standards System Integration & Testing	0	0	0	
Decommissioning	0	0	0	
Other	96	124	29	
Publicity and Dissemination	88	77	(11)	
Accommodation	7	47	40	Profiling difference, estimated at completion in line with plan
Unplanned interruptions during trial	0	0	0	
Course, Oferen Cabadula to Defeat Direct 40.40.44	3,438	6,596	3,158	
Source: Ofgem Schedule to Project Direct 19-12-11				

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#### APPPENDIX D - PROJECT BANK ACCOUNT

The bank statement below details all transactions relevant to the project up to 10 December 2012. This includes all receipts and payments associated with the project up to the November 2012 month end reporting period.

Lloyds TSB Statements and Balances	Yesterday's Statement	C082421
Statements and Balances		

ate	Type	Narrative	Value Date	Payments	Receipts	Balance
JAN12		Opening Ledger Balance				0.00 Cr
APR12	F/FLOW	SCOTTISH HYDRO-ELE F/FLOW			19,166.67	19,166.67 Cr
APR12	F/FLOW	WESTPOWSWEST F/FLOW			117,500.00	136,666.67 Cr
APR12	CR	ELECTRICITY NWL NO.4 PYMT			1,319,416.63	1,456,083.30 Cr
		TRANSFER 00268			-,,	-,,
APR12	BGC	LONDON POWER NETWO BGC			59,166.63	1,515,249.93 Cr
	Duc	LOW CARB NETWORKS			53,200.05	1,515,215.55 01
APR12	BGC	SOUTH EASTERN POWE BGC			58,333.37	1,573,583.30 Cr
AFR12	ВОС				36,333.37	1,575,585.50 CI
nn 12	D.C.C	LOW CARB NETWORKS			45 022 27	1 610 416 67 6
APR12	BGC	EASTERN POWER NETW BGC			45,833.37	1,619,416.67 Cr
		LOW CARB NETWORKS				
APR12	BGC	NORTHERN ELECTRIC BGC			59,166.63	1,678,583.30 Cr
		LCNF				
APR12	BGC	NORTHERN ELECTRIC BGC			40,833.37	1,719,416.67 Cr
		LCNF				
PR12	BGC	R B S-SP DISTRIBUT BGC			27,500.00	1,746,916.67 Cr
		LOW CARBON NETWORK				
PR12	BGC	R B S-SP MANWEB BGC			39,166.63	1,786,083.30 Cr
	200	LOW CARBON NETWORK			23,100102	1,100,0001110
AAY12	DP	ELECTRICITY NWL NO.4 PYMT		372,174.17		1,413,909.13 Cr
174 1 12	DK			372,174.17		1,415,909.15 CI
	E/ELOW	TRANSFER 00277			10.166.67	1 422 075 80 C-
	F/FLOW	SCOTTISH HYDRO-ELE F/FLOW			19,166.67	1,433,075.80 Cr
	F/FLOW	WESTPOWSWEST F/FLOW			117,500.00	1,550,575.80 Cr
AAY12	CR	ELECTRICITY NWL NO.4 PYMT			292,416.67	1,842,992.47 Cr
		TRANSFER 00285				
MAY12	BGC	LONDON POWER NETWO BGC			59,166.67	1,902,159.14 Cr
		LOW CARB NETWORKS				
MAY12	BGC	SOUTH EASTERN POWE BGC			58,333.33	1,960,492.47 Cr
		LOW CARB NETWORKS				
MAY12	BGC	EASTERN POWER NETW BGC			45,833.33	2,006,325.80 Cr
	Duc	LOW CARB NETWORKS			45,055.55	2,000,020.00 C1
MAY12	DCC	NORTHERN ELECTRIC BGC			59,166.67	2,065,492.47 Cr
VIA 1 12	ВОС				39,100.07	2,065,492.47 CF
	n.c.c	LCNF			40.022.22	2 106 225 00 6
MAY12	BGC	NORTHERN ELECTRIC BGC			40,833.33	2,106,325.80 Cr
		LCNF				
	F/FLOW	SP MANWEB PLC F/FLOW			39,166.67	2,145,492.47 Cr
	F/FLOW	SP DISTRIBUTION LT F/FLOW			27,500.00	2,172,992.47 Cr
UN12	DR	ELECTRICITY NWL NO.4 PYMT		68,669.60		2,104,322.87 Cr
		TRANSFER 00287				
UN12	F/FLOW	SCOTTISH HYDRO-ELE F/FLOW			19,166.67	2,123,489.54 Cr
UN12	F/FLOW	WESTPOWSWEST F/FLOW			117,500.00	2,240,989.54 Cr
UN12	CR	ELECTRICITY NWL NO.4 PYMT			292,416.67	2,533,406.21 Cr
		TRANSFER 00291			,	_,
UN12	F/FLOW	SP DISTRIBUTION LT F/FLOW			27,500.00	2,560,906.21 Cr
UN12	F/FLOW	SP MANWEB PLC F/FLOW			39,166.67	2,600,072.88 Cr
UN12	BGC	LONDON POWER NETWO BGC			59,166.67	
ONIZ	DGC				39,100.07	2,659,239.55 Cr
	naa	LOW CARB NETWORKS			50 222 22	2 212 222 00 0
UN12	BGC	SOUTH EASTERN POWE BGC			58,333.33	2,717,572.88 Cr
		LOW CARB NETWORKS				
UN12	BGC	EASTERN POWER NETW BGC			45,833.33	2,763,406.21 Cr
		LOW CARB NETWORKS				
UN12	BGC	NORTHERN ELECTRIC BGC			59,166.67	2,822,572.88 Cr
		LCNF				
UN12	BGC	NORTHERN ELECTRIC BGC			40,833.33	2,863,406.21 Cr
		LCNF			,	_,
UN12	CHGS	ACCOUNT CHARGE		4.20		2,863,402.01 Cr
UL12	DR	ELECTRICITY NWL NO.4 PYMT		455,501.23		2,407,900.78 Cr
V4.62	DIC			455,501.25		2,407,200.76 CI
III 12	E/ELOW	TRANSFER 00294			10 166 67	2 427 067 45 65
UL12	F/FLOW	SCOTTISH HYDRO-ELE F/FLOW			19,166.67	2,427,067.45 Cr
UL12	F/FLOW	WESTPOWSWEST F/FLOW			117,500.00	2,544,567.45 Cr
UL12	CR	ELECTRICITY NWL NO.4 PYMT			292,416.67	2,836,984.12 Cr
		TRANSFER 00297				
UL12	BGC	LONDON POWER NETWO BGC			59,166.67	2,896,150.79 Cr
		LOW CARB NETWORKS				
UL12	BGC	SOUTH EASTERN POWE BGC			58,333.33	2,954,484.12 Cr
		LOW CARB NETWORKS			2	
UL12	BGC	EASTERN POWER NETW BGC			45,833.33	3,000,317.45 Cr
	200	LOW CARB NETWORKS			10,000100	2,000,017,770 01
III.12	BGC				50 166 67	3,059,484,12 Cr
UL12	BGC	NORTHERN ELECTRIC BGC			59,166.67	3,039,484.12 CF
	ncc	LCNF			40.000.00	3 100 317 17 1
UL12	BGC	NORTHERN ELECTRIC BGC			40,833.33	3,100,317.45 Cr
		LCNF				
UL12	BGC	R B S-SP DISTRIBUT BGC			27,500.00	3,127,817.45 Cr
		LOW CARBON NETWORK				
	BGC	R B S-SP MANWEB BGC			39,166.67	3,166,984.12 Cr
JL12		LOW CARBON NETWORK				
JL12						
	DR			518 517 25		2 648 466 87 Cr
UL12 .UG12	DR	ELECTRICITY NWL NO.4 PYMT TRANSFER 00301		518,517.25		2,648,466.87 Cr

Version: 3,16,1,510 This report is confidential and for the intended recipient only.

If you are not the intended recipient please destroy this page immediately.

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#### **APPPENDIX D - PROJECT BANK ACCOUNT**



Yesterday's Statement

C082421

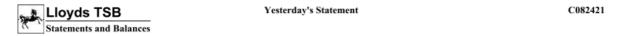
EL ECTRICITY	NUMBER AND	2 11 T CN	E (CDD)
ELECTRICITY	NWLN	J.II LCN	F (GBP)

Date	Туре	Narrative	Value Date	Payments	Receipts	Balance
		GROSS CREDIT INTEREST				
24AUG12		SCOTTISH HYDRO-ELE F/FLOW			19,166.67	2,668,685.15 Cr
28AUG12	CR	ELECTRICITY NWL NO.4 PYMT			292,416.67	2,961,101.82 Cr
28AUG12	E/ELOW	TRANSFER 00309 WESTPOWSWEST F/FLOW			117,500.00	3,078,601.82 Cr
28AUG12	F/FLOW	SP DISTRIBUTION LT F/FLOW			27,500.00	3,106,101.82 Cr
28AUG12		SP MANWEB PLC F/FLOW			39,166.67	3,145,268.49 Cr
28AUG12	BGC	LONDON POWER NETWO BGC			59,166.67	3,204,435.16 Cr
20.4110112	DGG.	LOW CARB NETWORKS			50 222 22	2.262.266.40.6
28AUG12	BGC	SOUTH EASTERN POWE BGC			58,333.33	3,262,768.49 Cr
28AUG12	BGC	LOW CARB NETWORKS EASTERN POWER NETW BGC			45,833.33	3,308,601.82 Cr
20110-012	Duc	LOW CARB NETWORKS			12,022.22	Dybrogora and the
28AUG12	BGC	NORTHERN ELECTRIC BGC			59,166.67	3,367,768.49 Cr
		LCNF				
28AUG12	BGC	NORTHERN ELECTRIC BGC			40,833.33	3,408,601.82 Cr
11SEP12	DR	LCNF ELECTRICITY NWL NO.4 PYMT		278,744.88		3,129,856.94 Cr
1100112	DIC	TRANSFER 00317		270,744.00		3,123,030.54 C1
19SEP12	INT	GROSS CREDIT INTEREST			3,409.65	3,133,266.59 Cr
24SEP12	F/FLOW	SCOTTISH HYDRO-ELE F/FLOW			19,166.67	3,152,433.26 Cr
25SEP12	F/FLOW	WESTPOWSWEST F/FLOW			117,500.00	3,269,933.26 Cr
26SEP12 28SEP12	CHGS	ACCOUNT CHARGE		3.11	202 416 67	3,269,930.15 Cr
205EF12	CR	ELECTRICITY NWL NO.4 PYMT TRANSFER 00327			292,416.67	3,562,346.82 Cr
28SEP12	BGC	LONDON POWER NETWO BGC			59,166.67	3,621,513.49 Cr
		LOW CARB NETWORKS				
28SEP12	BGC	SOUTH EASTERN POWE BGC			58,333.33	3,679,846.82 Cr
2005514	DOG.	LOW CARB NETWORKS			45.022.22	2 824 600 14 6
28SEP12	BGC	EASTERN POWER NETW BGC LOW CARB NETWORKS			45,833.33	3,725,680.15 Cr
28SEP12	BGC	NORTHERN ELECTRIC BGC			59,166.67	3,784,846.82 Cr
2002112	Doc	LCNF			27,100.07	2,704,040.02
28SEP12	BGC	NORTHERN ELECTRIC BGC			40,833.33	3,825,680.15 Cr
2005512	D.C.C.	LCNF			25 500 00	2.052.100.15.0
28SEP12	BGC	R B S-SP DISTRIBUT BGC			27,500.00	3,853,180.15 Cr
28SEP12	BGC	LOW CARBON NETWORK R B S-SP MANWEB BGC			39,166.67	3,892,346.82 Cr
2002112	Doc	LOW CARBON NETWORK			27,100.07	Discourse of
10OCT12	DR	ELECTRICITY NWL NO.4 PYMT		600,425.90		3,291,920.92 Cr
		TRANSFER 00331				
24OCT12	F/FLOW	SCOTTISH HYDRO-ELE F/FLOW			19,166.67	3,311,087.59 Cr
25OCT12 25OCT12	F/FLOW BGC	WESTPOWSWEST F/FLOW R B S-SP DISTRIBUT BGC			117,500.00 27,500.00	3,428,587.59 Cr 3,456,087.59 Cr
2500112	DGC	LOW CARBON NETWORK			27,200.00	3,430,007.37 C1
25OCT12	BGC	R B S-SP MANWEB BGC			39,166.67	3,495,254.26 Cr
		LOW CARBON NETWORK				
26OCT12	CR	ELECTRICITY NWL NO.4 PYMT			292,416.67	3,787,670.93 Cr
26OCT12	BGC	TRANSFER 00337 LONDON POWER NETWO BGC			59,166.67	3,846,837.60 Cr
2000112	DGC	LOW CARB NETWORKS			39,100.07	3,640,637.00 CI
26OCT12	BGC	SOUTH EASTERN POWE BGC			58,333.33	3,905,170.93 Cr
		LOW CARB NETWORKS				
26OCT12	BGC	EASTERN POWER NETW BGC			45,833.33	3,951,004.26 Cr
26OCT12	BGC	LOW CARB NETWORKS NORTHERN ELECTRIC BGC			59,166.67	4,010,170.93 Cr
2000112	ВСС	LCNF			39,100.07	4,010,170.93 CI
26OCT12	BGC	NORTHERN ELECTRIC BGC			40,833.33	4,051,004.26 Cr
		LCNF				
13NOV12	DR	ELECTRICITY NWL NO.4 PYMT		274,863.81		3,776,140.45 Cr
23NOV12	E/ELOW	TRANSFER 00343			19,166.67	2 705 207 12 C-
26NOV12		SCOTTISH HYDRO-ELE F/FLOW WESTPOWSWEST F/FLOW			117,500.00	3,795,307.12 Cr 3,912,807.12 Cr
28NOV12		ELECTRICITY NWL NO.4 PYMT			292,416.67	4,205,223.79 Cr
		TRANSFER 00356				-,,
28NOV12	BGC	LONDON POWER NETWO BGC			59,166.67	4,264,390.46 Cr
202102112	DOG	LOW CARB NETWORKS			#0 222 22	4 222 522 52
28NOV12	BGC	SOUTH EASTERN POWE BGC LOW CARB NETWORKS			58,333.33	4,322,723.79 Cr
28NOV12	BGC	EASTERN POWER NETW BGC			45,833.33	4,368,557.12 Cr
_3110 112	200	LOW CARB NETWORKS			40,000,000	-in-position comments
28NOV12	BGC	NORTHERN ELECTRIC BGC			59,166.67	4,427,723.79 Cr
*********	D.O.C.	LCNF			40	
28NOV12	BGC	NORTHERN ELECTRIC BGC			40,833.33	4,468,557.12 Cr
28NOV12	BGC	LCNF R B S-SP DISTRIBUT BGC			27,500.00	4,496,057.12 Cr
2014O V 12	DGC	LOW CARBON NETWORK			27,500.00	4,450,057.12 CI
28NOV12	BGC	R B S-SP MANWEB BGC			39,166.67	4,535,223.79 Cr
		LOW CARBON NETWORK				

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#### **APPPENDIX D - PROJECT BANK ACCOUNT**



#### ELECTRICITY NWL NO.11 LCNF (GBP)

Date	Type	Narrative	Value Date	Payments	Receipts	Balance
07DEC12	DR	ELECTRICITY NWL NO.4 PYMT TRANSFER 00361		869,182.89		3,666,040.90 Cr
07DEC12 07DEC12		Value of Credits (82) Value of Debits (10)		3,438,087.04	7,104,127.94	
07DEC12 07DEC12		Closing Ledger Balance Closing Cleared Balance				3,666,040.90 Cr 3,666,040.90 Cr

<sup>\*\*\*</sup> End of Report \*\*\*

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